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ABSTRACT

In 1986 the Kentucky General Assembly passed legislation directing the Legislative Research Commission to appoint a special subcommittee, the Special Subcommittee on Essential Skills Testing, to study the Kentucky Essential Skills Testing Program (KEST) and to make recommendations concerning the program. This report presents the findings and recommendations of this subcommittee. Kentucky began its mandated statewide testing program in 1978. The KEST provides information about each student's mastery of essential skills, or criterion-referenced data, and an estimate of how well Kentucky's students do in comparison with a national sample. When the KEST is considered in terms of the statutory requirements for testing, it seems to fulfill these purposes. However, it only provides an estimate of normative information, and is not as reliable at the individual student level as a longer norm-referenced test would be. The Subcommittee met six times during the year and heard the testimony of various experts and reviewed documents pertaining to the KEST and other state and nationally normed tests. As a result it made two recommendations: (1) the Kentucky Department of Education should administer a criterion-referenced test based on the essential skills in grades K-12, and also administer a nationally normed achievement test in grades 3, 5, 7, and 10; and (2) Kentucky should participate in the 1988 Southern Regional Education Board/National Assessment of Educational Progress Testing Program. (SLD)

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ED 423 268

Research Memorandum No. 435

REPORT OF THE SPECIAL SUBCOMMITTEE ON KENTUCKY ESSENTIAL SKILLS TESTING

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MEMORANDUM

TO: Vic Hellard, Jr., Director
Legislative Research Commission

FROM: Bonnie Brinly BB

SUBJECT: Research Study Directed by House Concurrent Resolution 132

DATE: April 7, 1988

House Concurrent Resolution 132 was adopted during the 1986 session of the General Assembly. The resolution directed the establishment of a special subcommittee to study the Kentucky Essential Skills Testing program.

This memorandum presents the findings and recommendations of the Subcommittee.

BB/chs

Enclosure

REPORT OF THE SPECIAL SUBCOMMITTEE ON ESSENTIAL SKILLS TESTING

INTRODUCTION

In 1986, the General Assembly passed HCR 132, directing the Legislative Research Commission to appoint a special subcommittee of the Interim Joint Committee on Education to study the Kentucky Essential Skills Testing (KEST) Program and to make recommendations concerning the program. In addition, the 1986 General Assembly passed a sunset provision for KEST effective at the end of the 1987-88 testing cycle. The Legislative Research Commission established the Special Subcommittee on Essential Skills Testing and appointed seven members.

The purpose of this report is to outline goals and objectives of state testing programs; review Kentucky's testing program, its history and legislated requirements; review large scale testing programs in other states; review national testing initiatives; summarize the subcommittee's activities; and present the subcommittee's recommendations.

GOALS AND OBJECTIVES OF STATEWIDE TESTING PROGRAMS

> If the goal of a testing program is to compare an individual test score with the performance of others, a norm-referenced test is probably needed. If, on the other hand, the goal of the testing program is to compare a test score with a certain standard or level of mastery, a criterion-referenced test is needed . . . .Can one type test do it "all"? Probably not. But, it is important to recognize that the norm-referenced tests and criterion-referenced tests are designed for different purposes and must be interpreted differently.[1]

Dawson and Dawson summarized three general goals or objectives for testing Programs:

1. Accountability. To evaluate school performance and to hold schools accountable for assuring basic student performance.
2. Student Diagnosis. To diagnose individual student weaknesses and problem areas and direct them to specific remediation.
3. Curriculum evaluation. To review and evaluate the curriculum to see if it meets specified objectives.[2]

For the most part, an individual state testing program cannot be labeled right or wrong. Basically, the testing program selected is a reflection of state policy. As long as the test is standardized, valid, reliable, and objective, and the results are interpreted within the constraints of the type test used, the program is defensible.

KENTUCKY'S TESTING PROGRAM

Kentucky began its mandated statewide testing programs with the passage of the Educational Improvement Act in 1978. The original wording of the intent section of the bill, codified as KRS 158.660, gave the following reasons for adopting a statewide testing program:

> It is the intention of the general assembly in enacting this legislation to assure the right of each student in the public schools of this state to acquire the basic knowledge and learning skills essential for completing high school, pursuing a course of study in postsecondary education, or entering the work force in our society. It is further the intention of the general assembly to assure each student in the public schools access to those programs and services appropriate to his educational needs in the areas of basic academic and learning skills development (HB 579 Section 3).

The bill required the Department of Education to purchase, or cause to be developed, tests for annually measuring student progress and achievement in the basic skills in grades 3, 5, 7, and 10 beginning in 1978-79. The Department chose to administer the Comprehensive Test of Basic Skills (CTBS) published by CTB/McGraw-Hill.

KRS 158.660 was not changed substantially until passage of SB 202 in 1984, when the section was amended to read as follows:

> It is the intention of the general assembly in enacting KRS 158.650 to 158.740 and this Act:
>
> (1) To assure the right of each student in the public schools of this state to acquire the competencies in the essential skills necessary for completing high school, pursuing a course of study in post-secondary education, or entering the work force in our society;
>
> (2) To assure each student in the public schools access to those programs and services appropriate to his educational needs in the areas of competencies in the essential skills;
>
> (3) To assure that each school district will be held accountable for students in meeting standards of attainment of competencies in the essential skills and for meeting standards in providing programs and services for students;
>
> (4) To require the state board of education to establish standards by which acceptable levels of attainment shall be determined; and
>
> (5) To require the state board of education to identify school districts which are educationally deficient and to provide such districts with program, financial, and other consultation and assistance as necessary to develop and implement strategies and programs to eliminate deficiencies.

The 1984 Legislature also began the Kentucky Essential Skills Testing Program, in order to "assure that each pupil in the public schools of the Commonwealth is taught and is mastering the essential skills necessary to function in each basic skills area . . . " (KRS 158.750(1)). The legislation called for testing in all grades for mastery of skills in mathematics and reading in 1984-85 and added testing of spelling, writing and library research reference skills in 1985-86. The Department contracted with CTB/McGraw-Hill for $1.96 million to develop the customized tests.

In the construction of the tests, CTB/McGraw-Hill has included additional items that, in combination with certain criterion-referenced items, yield estimated normative information. Because these items form a shortened version of the norm-referenced test, CTBS-U, there is a larger degree of error in the estimated normative scores at the individual student level. But, as the number of students in the group increases, such as at the school level, the district level, or the state level, the estimated averages are very close to what the state would have had if every student had taken the CTBS-U.

Thus, the KEST provides information about each student's, or group of students', mastery of essential skills or criterion-referenced data and an estimate of how well Kentucky's students do in comparison to a national sample or an estimate of norm-referenced data.

The district test scores on the KEST are reviewed at the state level to determine whether they meet standards set by the State Board of Education. Districts not meeting the standards must develop and implement an educational improvement plan. Failure to make progress in correcting deficiencies can result in the district's being declared educationally deficient.

Another way the KEST scores are used at the state level is to allocate remediation funds to local school districts. The money is to provide special classrooms or teacher's aides for those students who, at the end of kindergarten, first and second grades, fail to master the essential skills as measured by the KEST.

When we consider Kentucky's testing program in terms of the stated statutory purposes for testing, we might conclude that the KEST program fulfills those purposes to whatever extent the essential skills adequately represent the competencies necessary for completing high school, for pursuing a course of study in postsecondary education or for entering the work force. Student scores on the KEST are useful in meeting the requirements to the degree that the test measures mastery of the prescribed skills.

In terms of Dawson and Dawson's classification presented earlier, the KEST program is used as an accountability measure, may be used for student diagnosis, and may serve as a tool in curriculum evaluation, to the extent that the test data may indicate curriculum strengths and weaknesses for skills.

As previously stated, the KEST may be used as a tool for diagnosing individual strengths and weaknesses. The timing of testing may not facilitate this use, however. For example, a student in the third grade takes the test at the end of the school year. The scores

are sent back to the district in late summer. The individual scores may be given to the third grade teacher, but she no longer has the student. The scores may be given to the fourth grade teacher, but she is responsible for teaching a different set of skills, though she may teach those third grade skills which are necessary for learning the fourth grade skills. Neither way of reporting scores maximally facilitates student learning at the individual level. If the district's students have weaknesses which manifest themselves at the district level, then they are addressed through the educational improvement plan process.

The KEST generally meets the statutory requirements in terms of school district accountability, but the statute speaks to each student's having the skills to pursue postsecondary opportunities. Kentucky students will frequently find themselves competing with people from other states in higher education, advanced training, and in the job market. Therefore, an argument can be made for a norm-referenced test. The KEST provides estimated normative information, but is not as reliable at the individual student level as a longer norm-referenced test would be.

TESTING PROGRAMS IN OTHER STATES

Roeber has described the large-scale testing programs in forty-four states, two Canadian provinces, and Guam.3 In reviewing these programs, it is apparent that the states have chosen many different approaches to testing programs. Some states have criterion-referenced testing only, others have norm-referenced testing only, some administer a customized achievement test, and still others administer several types of tests.

Most states test selected grades only. Ohio permits the local district to determine which grades will be tested within certain parameters. Most states test only one high school grade. Those testing more than one year at the high school level generally have an exit examination requirement and offer retesting opportunities at other grades beyond the first time the test is given. Kentucky is the only state which requires criterion-referenced testing at all grades, while Arizona is the only state other than Kentucky which requires a norm-referenced test in grades 1-12. Virginia has criterion-referenced assessment resource material available for grades K-12 in nine areas, but the Board of Education requires that the school divisions use the resource materials or approved alternatives for language arts and mathematics in grades 1-6 only. Use at all other grade levels and other subject areas are local options.

Another difference among state testing programs is whether all students in a particular grade are tested or merely a sample of students in certain grades is tested. Most states test all students in the designated grades.

Shelf tests, customized state tests, and a combination of both are found among the testing programs. Customized tests may be developed with the assistance of a test publishing company, teachers, university faculty, or advisory panels.

Subject areas most commonly tested are mathematics, reading, and language arts.

Several states require a writing sample for certain grades. Other subjects less frequently tested are science, social studies, and citizenship. Kentucky is the only state to designate spelling and library research reference skills specifically, although in other states these areas are probably covered to some extent on the language arts tests.

NATIONAL TESTING INITIATIVES

The Southern Regional Education Board (SREB) joined forces with the federally-funded National Assessment of Education Progress (NAEP) testing program in an attempt to measure student progress in response to education reforms in the South. The program provides its participants current national and state data as each state tests a representative sample of its students at each testing. Tests in one or two subject areas are administered to a scientifically derived sample of eleventh grade students in each state. The first year reading was tested; the second year writing was added. This year mathematics and U.S. History will be assessed.

All states participate in NAEP, but this particular program gives state data and permits regional comparisons. Eight SREB states elected to participate, at a cost of $40,000. The tests are not tied to a curriculum or a textbook series, but are NAEP items agreed to by the participating states.

NAEP tests samples of students selected as representative of the nation as a whole at three age levels—9, 13, and 17. Results are reported for such subgroups as sex, race, and region of the country. The U.S. Department of Education and the National Science Foundation have recently funded a grant to the Council of Chief State School Officers to form a consortium of educators to develop recommendations for a state-by-state assessment of student achievement, with the goal being some state-level NAEP testing in 1990.

SUBCOMMITTEE ACTIVITIES

The subcommittee met six times during the interim. At its first meeting, the Associate Superintendent of the Office of Research and Planning presented the 1985-86 KEST results. That school year nearly 88% of Kentucky's students mastered the essential skills. Sixty-three percent of the students did as well as or better than the average student in the national norm group. In almost every category, the 1985-86 students performed better than those of the previous year. Ms. Brown recommended expansion of the remediation program. The test results also suggested that elementary students were performing better than high school students.

The subcommittee heard testimony from representatives of several educational organizations at its second meeting. The president of the Kentucky Education Association emphasized that achievement tests are not an end, but a means to an end. He suggested that tests are an education tool, which, in combination with professional judgment, adequate

and up-to-date materials, reasonable class sizes, and student and community commitment, can encourage a quality education for all students.

The Legislative Chairman of the Kentucky Congress of Parents and Teachers suggested that teachers were not adequately prepared to interpret test results and were therefore unable to explain them adequately to parents. She also questioned the reliability and validity of the KEST. In addition to reliability and validity studies, she recommended a cultural bias review.

The Executive Director of the Kentucky Association of School Administrators reported that many superintendents were concerned about the validity of the KEST, the emphasis being placed on district rankings and the late date for test administration. He recommended further reliability and validity studies on the KEST.

A professor in the Department of Education Psychology and Counseling at the University of Louisville discussed his concerns with the testing program at the subcommittee's third meeting. In his opinion, the decision to develop a Kentucky test for essential skills was probably a mistake, since the underlying assumption is that the skills students need to know in Kentucky are different from those required for students in other states. He was critical of the Department of Education's decision to combine a shortened version of the CTBS with the KEST, in that there are not enough items to do all the things the test is intended to do. He was also critical of the Boston College study, because it failed to compare the KEST to any absolute standard, but instead compared it to standards taking into consideration the difficulty of the task. He suggested that the real question is whether the KEST should have replaced the CTBS.

At its fourth meeting the subcommittee heard a report on the Southern Regional Education Board/National Assessment of Education Progress Testing Project (SREB/NAEP), presented by an SREB staff member. He noted that SREB's interest is primarily in how test scores and test information can be used by educators and government officials to help shape and change educational policies.

In an effort to evaluate educational reform, SREB began looking at testing and test results four years ago. They found that the national tests were only used in a few states and that, of the fifteen SREB states, only three were using a national test. They also found that the national averages or norms used were seven or eight years old, and that there was no way for one state to compare its performance with that of another state. The SREB/NAEP program began in an attempt to provide current information, national comparisons and state-to-state comparisons.

The states participating in the SREB/NAEP project administer tests in one or two subject areas to a scientific sample of students. Only state data are generated. The tests are not tied to a particular curriculum or textbook series and include a wider range of questions than is found on most tests. The tests are not meant to replace criterion-referenced tests.

Kentucky does not presently participate in the project, but the Deputy Associate Superintendent of the Office of Research and Planning indicated that the testing staff was recommending participation in the 1988 testing cycle.

At the fourth meeting the Superintendent of the Calloway County School District and an Associate Professor of Counseling at Murray State University discussed their findings from an empirical study involving administration of both the KEST and CTBS. They found that the estimated norm scores of the KEST were not accurate predictors of CTBS scores and that the KEST was easier than the CTBS. Thus, a key problem from an administrator's viewpoint is lack of confidence in the results. The superintendent recommended making the KEST a criterion-referenced test only and administering it every two or three years, or giving a recognized norm-referenced test every two or three years. In the event it is decided to administer one test to all Kentucky students, he recommended a recognized, nationally normed achievement test.

A school psychometrist for Calloway County discussed her concerns about the confusing individual test records, the fact that the test does not yield a vocabulary score, the turnaround time for scoring and the inability to hand score the KEST hindering work with new students.

The superintendent and a psychologist/psychometrist from Owensboro Independent School District criticized the test for artificially inflating test scores. The former suggested a norm-referenced test, using as current norms as possible and administering different forms of a test from year to year or changing tests every two or three years.

The latter questioned whether the norm-referenced portion of the KEST and the CTBS measure the same kinds of student achievement. He also questioned how well the KEST measures students' performance on the prescribed essential skills.

At its fifth meeting the subcommittee heard testimony from a representative of the Boston College Center for the Study of Testing, Evaluation and Education Policy, outlining the Center's findings and recommendations from its study of the mathematics and reading portions of the KEST. Generally, the study found that CTB/McGraw-Hill did a thorough and professional job in producing the twenty-six tests and that with only two exceptions the comparability of the KEST norm-referenced score estimates to those that would have to be obtained with the CTBS is adequate for the intended use of the results.

In response to a question concerning the best way to find out if Kentucky's students are learning the essential skills and to compare Kentucky's students to students in other states, he recommended two separate tests. First, test selected grades using a standardized norm-referenced, commercially available test. Second, develop a criterion-referenced test specifically measuring the essential skills, ideally using existing items that have been screened for measuring the skill. He also recommended that the test be limited to a multiple choice format and that more items be devoted to each skills. Finally, he cautioned against placing too much emphasis on testing.

At the subcommittee's sixth and final meeting, a representative of the Department of Education presented the 1986-87 KEST results. The percent of students mastering the essential skills was 88.8 in 1987, as compared to 87.7 in 1986. There was a higher percentage of students mastering reading in each grade, kindergarten through eight; however, there

was a slight decline in the percent of students mastering the reading essential skills in grades nine through twelve. This is the second year in a row for such a decline in these grades.

The national comparison data show a slight improvement in three out of four grades, with the tenth grade showing a slight decline from 1986.

RECOMMENDATIONS

The subcommittee recommends and submits the following to the Legislative Research Commission and the Interim Joint Committee on Education:

1) That the Kentucky Department of Education administer a criterion-referenced test based on the essential skills in grades K-12 and also administer a nationally normed achievement test in grades 3, 5, 7 and 10; and
2) That Kentucky participate in the 1988 Southern Regional Education Board/National Assessment of Educational Progress Testing Program.

FOOTNOTES

1. Margaret Jorgensen, *Basic Differences Between Norm-Referenced and Criterion-Referenced Tests* (Atlanta: Southern Regional Education Board, 1986), pp. 3-4.

2. Karen S. Dawson and Richard E. Dawson, *Minimum Competency Testing and Local Schools* (St. Louis: Washington University, 1985), pp. 14-15.

3. Edward Roeber, *Large Scale Assessment Programs: Program Descriptions* (Lansing: Michigan Department of Education), pp. 1-15 and attachments.